

Report on 2004 Placement of Cages Containing *Lampsilis higginsii* in the Wisconsin River near Orion.

Wisconsin Department of Natural Resources
and
U. S. Fish and Wildlife Service, Genoa National Fish Hatchery

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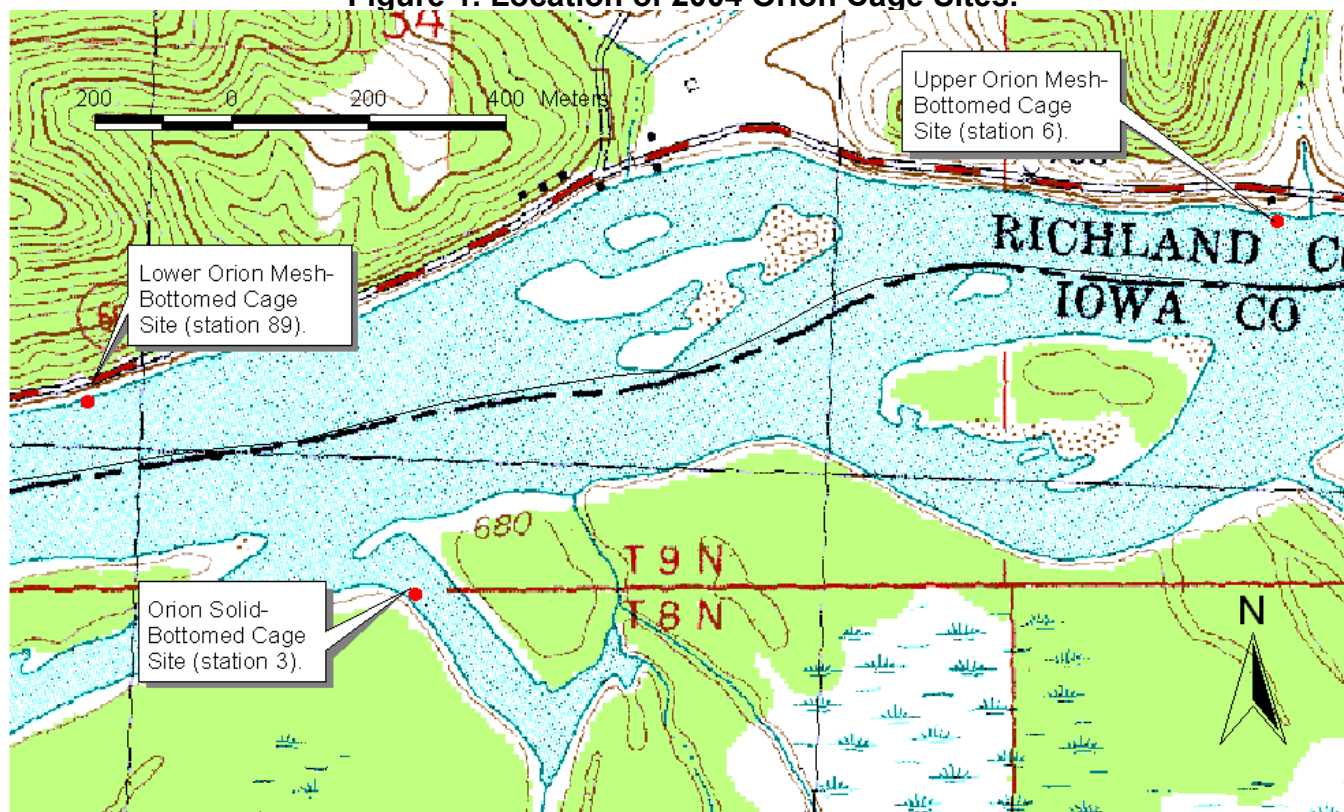
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This is a report on the 2004 placement and removal of caged fish containing glochidia of *Lampsilis higginsii* in the Wisconsin River, near Orion as well as the release of free-ranging fish near Prairie du Sac, Wisconsin. This effort was part of mussel propagation related to the reauthorization of the Mississippi River System Navigation project by the U. S. Army Corps of Engineers in cooperation with an associated team known as the Mussel Coordination Team.

Persons involved in the 2004 placement were staff from the Wisconsin Department of Natural Resources and staff from the U. S. Fish and Wildlife Service, Genoa National Fish Hatchery.

During 12 May 2004, 11 mesh-bottomed cages were placed at Wisconsin river mile 48.42 (T9N, R1E, Sec. 34, NE of SW of SW, 43° 12' 28.6" N, 90° 21' 59.8" W), 8 m off right descending bank, Richland County, Wisconsin. All cages were placed within several meters of each other, in a line about 20m downstream of some obvious shoreline rip-rap associated with State Highway 60 (see Figure 1). In these cages were placed 451 smallmouth bass containing an estimated 29,789 transformers from females obtained from the Mississippi River at Cassville, Wisconsin.

Figure 1. Location of 2004 Orion Cage Sites.



During 12 May 2004, 10 mesh-bottomed cages were placed at Wisconsin river mile 49.5 (T9N, R1E, Sec. 35, SW of NE of SW, 43°12'37.3"N, 90°20'43.2"W), 10 m off right descending bank, Richland County, Wisconsin. All cages were placed within several meters of each other, in a line about 5m downstream of a large rock adjacent to a cabin (see Figure 1). In these cages were placed 410

smallmouth bass containing an estimated 27,089 transformers from females obtained from the Mississippi River at Cassville, Wisconsin.

During 12 May 2004, 6 solid-bottomed cages were placed at Wisconsin river mile 48.66 (T8N, R1E, Sec. 34, NE of NE of NW, 43°12'19.5"N, 90°21'38.6"W), 15-20m off left descending bank, Iowa County, Wisconsin. All cages were placed within several meters of each other and placed in pairs each of which was at a different depth (see Figure 1). In these 6 cages were placed 156 smallmouth bass containing an estimated 10,307 transformers from females obtained from the Wisconsin River at Prairie du Sac, Wisconsin. A summary of cage placement information is given in Table 1.

On 11 May, 2004, 395 smallmouth bass containing an estimated 26,101 glochidial transformers were release at Wisconsin river mile 89.2 (T9N, R6E, Sec. 12, NE of NE of SE, 43°16'10.6"N, 89°43'17.9"W), off the right descending bank, Sauk County, Wisconsin (Figure 2).

Figure 2. Location of Prairie du Sac 2004 Free-Release Fish Site.

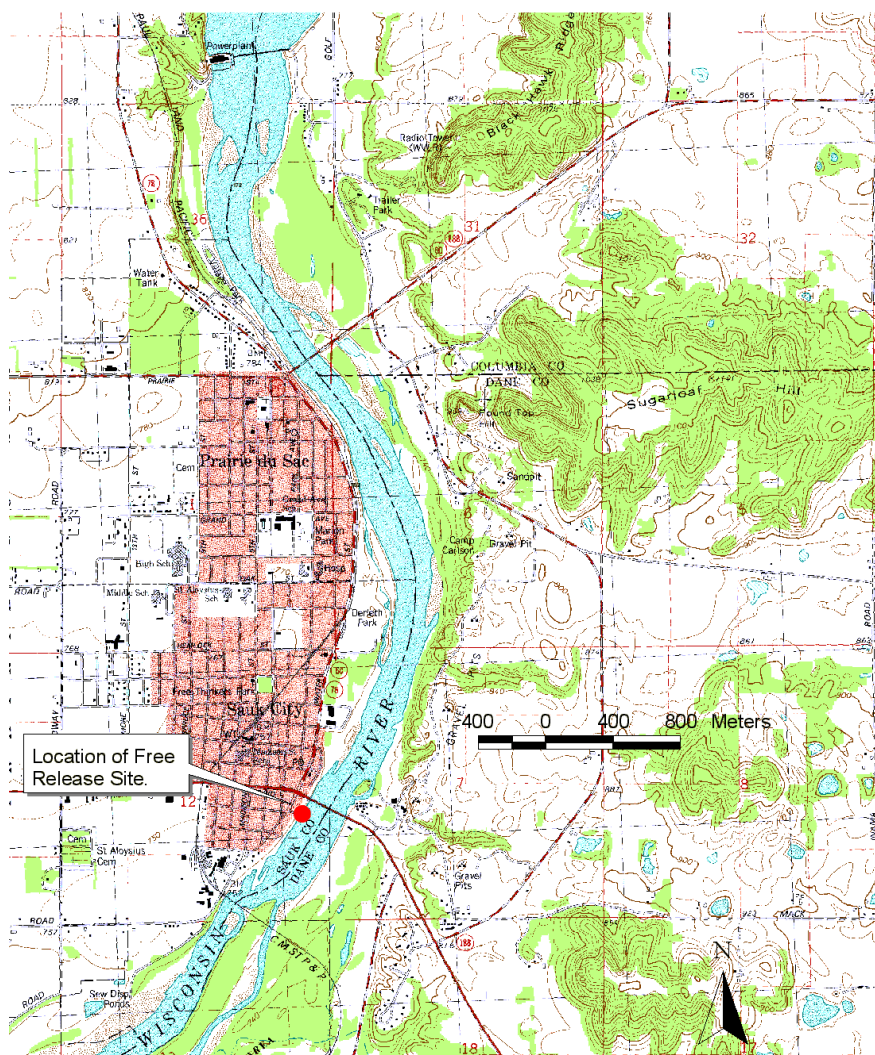


Table 1. Location, Date of Release, Release Method, Number of Each Fish Species and Population Strain for Propagated *L. higginsii* Released into the Wisconsin River, Wisconsin from 2004.

LOCATION	STATION	RIVER MILE	DATE OF RELEASE	LATITUDE LONGITUDE	METHOD (# OF CAGES)	FISH SPECIES	# OF FISH	EST. # OF <i>L. HIGGINSII</i> TRANS-FORMERS	MUSSEL "STRAIN"
Orion	89	48.42	12 May 2004	43°12'28.6" 90°21'59.8"	Mesh-bottomed cages (11)	<i>M. dolomieu</i>	451	29789	Cassville
Orion	6	49.5	12 May 2004	43°12'37.3" 90°20'43.2"	Mesh-bottomed cages (10)	<i>M. dolomieu</i>	410	27089	Cassville
Orion	3	48.66	12 May 2004	43°12'19.5" 90°21'38.6"	Solid-bottomed cages (6)	<i>M. dolomieu</i>	156	10307	Wisconsin R.
Prairie du Sac	68	89.16	11 May 2004	43°16'10.6" 89°43'17.9"	Free release	<i>M. dolomieu</i>	395	26101	Cassville

On 25 June 2004, 44 days after placement, the 19 remaining Orion mesh-bottomed cages were removed. Apparently, a total of two, one from each site, were lost, probably due to very high flood waters. Living and dead smallmouth bass were counted and an estimate was made of number of attached glochidia from a sub sample of living fish. The fish were released into the river.

In these 19 cages were found 218 living and 13 dead smallmouth bass. These 218 fish represent 25.3% of the 861 fish placed in these cages. On a sub sample of about 15 fish, we found about 15 attached glochidia per fish. This represents about 3300 glochidia that were not dropped prior to cage removal.

On 25 June 2004, 44 days after placement, the 2 remaining Orion solid-bottomed cages were opened underwater and the fish were released. Apparently, a total of four were lost or completely buried, probably due to very high flood waters. We were not able to count all fish present due to poor visibility, but we saw 8 fish exit each of the two cages. The two cages were half filled with sand. The cages were re-closed after waiting 45 minutes.

On 14 September 2004, 125 days after placement, the 2 remaining Orion solid-bottomed cages were removed from the water. Immediately prior to removal, we hand-searched a radius of 2m around the cages for mussels and searched inside the cages. After removing the cages, and spilling a large quantity of sand, we again hand-search the radius around the cage sites. No *L. higginsii* were found. We did find two young-of-the-year *P. grandis* both of which were less than 31mm total length.